

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

Appellant(s): Shang et al.
Appl. No.: 10/688,843
Conf. No.: 9443
Filed: October 17, 2003
Title: HIGH IMPACT STRENGTH FILM AND NON-PVC CONTAINING
CONTAINER AND POUCH AND OVERPOUCH
Art Unit: 1794
Examiner: Marc A. Patterson
Docket No.: CPDI-5855 US (112713-949)

Mail Stop Appeal Brief - Patents
Commissioner for Patents
P.O. Box 1450
Alexandria, VA 22313-1450

APPELLANTS' REPLY BRIEF

Sir:

I. INTRODUCTION

Appellants submit this Reply Brief in response to the Examiner's Answer dated March 25, 2008 pursuant to 37 C.F.R. § 41.41(a). Appellants respectfully submit that the Examiner's Answer has failed to remedy the deficiencies with respect to the Final Office Action dated October 4, 2007 as noted in Appellants' Appeal Brief filed on December 20, 2007 for at least the reasons set forth below. Accordingly, Appellants respectfully request that the anticipation and obviousness rejections of pending Claims 1-17 be reversed.

II. THE EXAMINER HAS STILL FAILED TO SHOW THAT INDEPENDENT CLAIM 1 IS ANTICIPATED BY *SHANG*

Appellants respectfully request that the Board reverse the 35 U.S.C. §102 because the Examiner has still failed to demonstrate that *Shang* discloses or suggests every element of independent Claim 1. Independent Claim 1 recites a cross-link free monolayer film comprising a polymer blend of a first component. The term “cross-link free” modifies the entire monolayer film and does not individually modify the first component or the second component. As a result, the proper claim interpretation as understood by the skilled artisan is that the monolayer film is cross-link free. In other words, the film does not require that any of its components be cross-linked or be exposed to cross-linking radiation.

Appellants have surprisingly found improved polymer blends for fabricating monolayer and multilayer films. The claimed polymer blends for fabricating films have high impact strength and high barrier to water and gas transmission. An advantage of the claimed invention is that the films are capable of withstanding terminal steam sterilization without exposing the film to radiation or other cross-linking techniques. This can simplify the process of manufacturing polymer films. The claimed films can also provide overpouch/container material that is functional over a wide range of temperatures and exhibits high impact strength after exposure to such temperatures.

Shang fails to disclose or suggest a cross-link free monolayer film comprising the polymer blend as required by Claim 1. Instead, *Shang* discloses that its monolayer film is made from at least a cross-linked first component. For example, *Shang* explicitly teaches that the first component is a readily cross-linkable polymer and more preferably an ethylene-containing polymer. See *Shang*, paragraph 68. *Shang's* film is cross-linked using standard cross-linking techniques including: (1) radiation exposure type cross-linking techniques, (2) chemical-exposure type cross-linking techniques or (3) a combination of both techniques. See *Shang*, paragraph 86. Accordingly, *Shang* explicitly discloses that its monolayer film has a cross-linked first component.

The Examiner asserts that *Shang* discloses a monolayer film comprising as a blend a first component of an ethylene-lower alkyl acrylate interpolymers and a second component of a propylene containing polymer. The Examiner further asserts that prior to crosslinking by

irradiation, the blend is extruded to produce the monolayer film and therefore discloses a monolayer film that is entirely crosslink free. See Examiner's Answer, page 7.

Appellants respectfully disagree and submit that the Examiner is mischaracterizing *Shang's* film in an attempt to arrive at the present claims. To argue anticipation, the Examiner is attempting to use a temporal relationship to describe the cross-linked film taught by *Shang*. However, there is no indication in *Shang* that the extruded film is a finished form. Appellants respectfully submit that the extruded blend described in *Shang* is in an intermediate form and does not comprise a final, finished product in accordance with the claimed invention. For example, this intermediate form is never used as a finished film or used to produce a container in any embodiments or examples in *Shang*.

There is also no indication that there is any discernable or significant amount of time lapse between when the blend is extruded and when the blend becomes irradiated (i.e. cross-linked). In fact, it can be argued that the blend is irradiated immediately after it is extruded thereby resulting in a partially cross-linked film.

In contrast to *Shang's* numerous teachings of a partially cross-linked monolayer film, Appellants' specification teaches that the claimed film does not require any of its components to be cross-linked or be exposed to cross-linking radiation. See, specification, page 3 lines 1-2. Thus, the recited element of "a cross-link free film" is a film that is not cross-linked or contains no cross-linked components anywhere within the film. To assert that *Shang's* partially cross-linked film discloses the claimed cross-link free film is inconsistent with the meaning of "a cross-link free film" as set forth in the present application.

In sum, *Shang* is entirely directed to a partially cross-linked film. For at least the reasons identified above, *Shang* fails to disclose or even suggest every element of Claim 1, as well as Claims 2-6 and 12-17 that depend from Claim 1. Accordingly, Appellants respectfully submit that the anticipation rejection of Claims 1-6 and 12-17 to *Shang* be withdrawn.

III. THE EXAMINER HAS STILL FAILED TO ESTABLISHED A PRIMA FACIE CASE OF OBVIOUSNESS WITH RESPECT TO CLAIMS 7-8

Claims 7-8 stand rejected under 35 U.S.C. §103(a) as being unpatentable over *Shang* and *Hamilton*. Appellants respectfully submit that the patentability of Claim 1 over *Shang* as

discussed above also demonstrates that the obviousness rejection of Claims 7-8, which depend from Claim 1, is improper. In this regard, even with *Hamilton* as a reference, the cited art fails to teach or suggest the elements of Claims 7-8 in combination with the novel elements of Claim 1.

For example, *Shang* fails to disclose or suggest a cross-link free monolayer film comprising the polymer blend as required by Claim 1 as discussed previously. Like *Shang*, *Hamilton* also fails to disclose or suggest a cross-link free monolayer film comprising the polymer blend as required by Claim 1. Thus, even if combined, the references fail to disclose the elements of a cross-link free monolayer film in accordance with the claimed invention.

Hamilton is directed to a polymer blend composed of 1) a polyolefin and 2) a segmented copolymer. *Hamilton*, column 3, lines 33-62. *Hamilton*'s segmented copolymer is a polyolefin and vinyl aromatic copolymer. *Id.* Consequently, *Hamilton* fails to disclose or suggest cross-link free film comprising an ethylene-based first component and a propylene/methyl pentene second component in accordance with the claimed invention. Moreover, the *Hamilton* blend may be cross-linked, further leading the skilled artisan away from the present claims. See *Hamilton*, column 3, lines 60-63 and column 5, lines 61-68.

In sum, even when combined, *Shang* and *Hamilton* fail to disclose or suggest every element of independent Claim 1. Accordingly, Appellants respectfully submit that independent Claim 1, along with Claims 7-8 that depend from Claim 1, are distinguishable from the cited references and are in condition for allowance.

IV. THE EXAMINER HAS STILL FAILED TO ESTABLISHED A PRIMA FACIE CASE OF OBVIOUSNESS WITH RESPECT TO CLAIMS 9-11

Claims 9-11 stand rejected under 35 U.S.C. §103(a) as being unpatentable over *Shang* and *Cahill*. Appellants respectfully submit that the patentability of Claim 1 over *Shang* as discussed above also demonstrates that the obviousness rejection of Claims 9-11, which depend from Claim 1, is improper. In this regard, even with *Cahill* as a reference, the cited art fails to teach or suggest the elements of Claims 9-11 in combination with the novel elements of Claim 1.

For example, *Shang* fails to disclose or suggest a cross-link free monolayer film comprising the polymer blend as required by Claim 1 as discussed previously. Like *Shang*, *Cahill* also fails to disclose or suggest a cross-link free monolayer film comprising the polymer

blend as required by Claim 1. Thus, even if combined, the references fail to disclose the elements of a cross-link free monolayer film in accordance with the claimed invention.

Cahill is directed to an oxygen barrier composition that may be used with polyolefin-based packaging. See *Cahill*, column 5, lines 30-40. *Cahill*, however, fails to disclose or suggest any cross-link free film comprising an ethylene-based first component present in an amount of 10-50% by weight of the blend and a propylene/methyl pentene based second component present in an amount of 50-99% by weight of the blend in accordance with the claimed invention.

In sum, even when combined, *Shang* and *Cahill* fail to disclose or suggest every element of independent Claim 1. Accordingly, Appellants respectfully submit that independent Claim 1, along with Claims 9-11 that depend from Claim 1, are distinguishable from the cited references and are in condition for allowance.

V. CONCLUSION

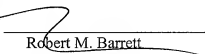
For the foregoing reasons, Appellants respectfully submit that the Examiner's Answer does not remedy the deficiencies noted in Appellants' Appeal Brief with respect to the Final Office Action. Therefore, Appellants respectfully request that the Board of Appeals reverse the anticipation and obviousness rejections with respect to Claims 1-17.

No fee is due in connection with this Reply Brief. The Director is authorized to charge any fees that may be required, or to credit any overpayment to Deposit Account No. 02-1818. If such a withdrawal is made, please indicate the Attorney Docket No. 112713-949 on the account statement.

Respectfully submitted,

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